PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference YU176-PCT	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No. PCT/AU2002/000762	International Filing Date *(day/month/year)* 13 June 2002	Priority Date *(day/month/year)* 12 April 2002

International Patent Classification (IPC) or national classification and IPC

Int. Cl. [7] B41J 2/14

Applicant

SILVERBROOK RESEARCH PTY. LTD. et al

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

   [X] This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of **2** sheet(s).

3. This report contains indications relating to the following items:

   - I [X] Basis of the report
   - II [ ] Priority
   - III [ ] Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV [ ] Lack of unity of invention
   - V [X] Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI [ ] Certain documents cited
   - VII [ ] Certain defects in the international application
   - VIII [X] Certain observations on the international application

Date of submission of the demand	Date of completion of the report
14 October 2003	22 July 2004
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer **STEPHEN CLARK** Telephone No. (02) 6283 2781

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/AU2002/000762

I. Basis of the report

1. With regard to the **elements** of the international application:*

☐ the international application as originally filed.

☒ the description, pages **1-10**, as originally filed,
pages , filed with the demand,
pages , received on with the letter of

☒ the claims, pages , as originally filed,
pages , as amended (together with any statement) under Article 19,
pages , filed with the demand,
pages **11, 12**, received on **26 February 2004** with the letter of **26 February 2004**

☒ the drawings, pages **1-4**, as originally filed,
pages , filed with the demand,
pages , received on with the letter of

☐ the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , received on with the letter of

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages

☐ the claims, Nos.

☐ the drawings, sheets/fig.

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*

** *Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report*

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims **1-9**	**YES**
	Claims -	**NO**
Inventive step (IS)	Claims **1-9**	**YES**
	Claims -	**NO**
Industrial applicability (IA)	Claims **1-9**	**YES**
	Claims -	**NO**

2. Citations and explanations (Rule 70.7)

The following documents identified in the Internaitonal Search Report have been considered for the purposes of this report:

D1 US 6264850 B1 (Silverbrook) 24 July 2001

D2 WO 2000/055089 A1 (Silverbrook Research Pty Ltd) 21 September 2000

Novelty (N) and Inventive Step (IS) Claims 1-9

The invention defined in claim 1 is a printhead chip for an inkjet printer, the chip comprising a substrate and a plurality of nozzle arrangements, each arrangement having a nozzle chamber receiving ink, an ink ejecting member in the chamber to eject ink, an actuator on the substrate displaceable with respect to the substrate when a drive signal is received, a sealing structure on the substrate interposed between the actuator and the ink ejecting member and a motion transmitting structure comprising a formation connected to the working portion of the actuator, a formation connected to the ink ejecting member and a pivoting lever arm interconnecting these two formations to reciprocally displace the ink ejecting member towards and away from the ink ejection port.

None of the prior art, either singly or in combination discloses a printhead chip for an inkjet printer having a chip as defined.

Closest prior art D1 discloses a printhead chip for an inkjet printer, the chip comprising a substrate and a plurality of nozzle arrangements, each arrangement having a nozzle chamber receiving ink, an ink ejecting member in the chamber to eject ink, an actuator on the substrate displaceable with respect to the substrate when a drive signal is received, a sealing structure on the substrate interposed between the actuator and the ink ejecting member and a pivoting lever arm interconnecting the actuator and ink ejecting member to reciprocally displace the ink ejecting member towards and away from the ink ejection port. But it does not include a motion transmitting structure having extra identifiable formations connected to the working portion of the actuator and to the ink ejecting member.

Consequently the subject matter of claim 1 and its dependent claims is new and not obvious and meets the requirements of Articles 33(2) and (3) of the PCT with regard to novelty and inventive step.

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 1 is not clear because the term "the ink ejection port" has no antecedent. (This may have occurred if wording from original claim 7, with antecedent in original claim 4, was added to amended claim 1.)